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something to bring back. No man will return from a hunting excursion empty handed to face the ridicule and anger of his wife; and as a consequence men are occasionally absent from their homes for two or three days, sleeping in the bush, until they have acquired some game, if nothing more than a turtle or a couple of birds' eggs, to bring back to the household. Under ordinary circumstances a man usually hunts alone with the help of a dog, although hunting parties are occasionally formed for the pursuit of drove animals, such as bush hog, or unwieldy beasts such as maipuri (bush cow). In fishing a man has his own private lines which he tends himself, but when a stream is poisoned, the cooperation of several men, and frequently of women and children, is enlisted.

The women of the household attend to the field products, digging the cassava and gathering the other edibles, as well as the cooking and preparation of all food. In these activities they are assisted by men too old to hunt and by young children. The cutting and preparation of the field, is, however, the man's task. And both the men and the women cooperate to do the planting.

Hunting. In the procuring of land animals, only three kinds of devices are used: the bow-and-arrow, the trap, and, rarely, the shot gun. Blow guns and spears are not in use at the present time, nor is there any memory of their former use by the Caribs. Such contrivances are said by the old men to have been used by the Akawai who formerly had settlements on the river and they are occasionally brought into the area as curiosities from distant Akawai settlements.[1]

Bows are made from four different kinds of wood and vary slightly according to the material. These four varieties are washiba (Carib, same; unidentified), letter wood (Carib, paidya; *Brosium aubletti*), bopa (Carib, same; unidentified), and yarriyarri (Carib, same, *Anaxagorea* sp.). The washiba bow in cross section is a fat oval; it is somewhat flatter on the belly than on the back and the wood is almost black. The letter wood bow has the same general

[1] Alec, for instance, says that when he was young his uncle brought a blow pipe home after he had made a trip to the head of the Cuyuni. There he had bought the weapon from the Akawais. It was made in one piece from a palm stem with the pith removed. His uncle gave him instructions concerning it. If you hit the quarry and it runs away, the poison is spoilt and the blow pipe must be thrown away. "This is because the game runs away with the essence of the poison" robbing the poison on your unused darts of its power and the weapon of its efficacy. To be successful you must try to hit the game two or three times and cut out the parts around the wounds.

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side. It is sometimes detachable. The taoto (Fig. 2, *d*) is double barbed. 411 224

The pinya is the general term applied to that type of arrow which has a detachable head attached by a long recovery string to the shaft. The shaft acts as a drag to prevent the escape of the game in thick bush.

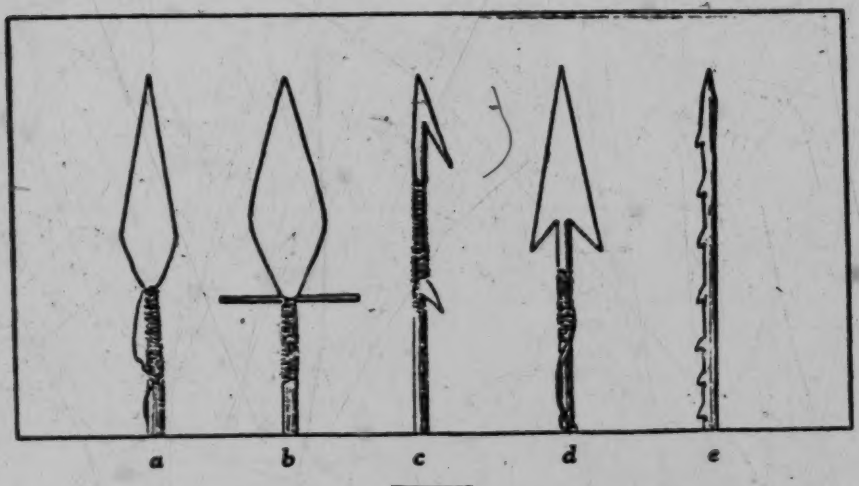

FIGURE 2

Arrowhead types. Left to right: aranseta; rapa; takoshi; taoto; matowai.

One fish arrow (no special name) has a head like that of the aranseta, but is provided with a line attached to the tail of the shaft. The other end of the line is tied around the wrist of the fisherman. 411 226

The tarapa is another type of fish arrow, provided with a cluster of three iron or wooden points as figured in Roth.[1]

Matowai (Fig. 2, *e*) carries a wooden head with many small barbs along one side. It is used for birds. [223]

A utensil sometimes used as a weapon is the cutlass. No Carib will venture out of sight of his house without his cutlass. These implements are made of iron, forged in one piece with a hollow handle which, however, is never hafted. They are obtained in trade and are used for every purpose, from cutting trails to shaving, to which a cutting or hacking implement can be put. Occasionally small animals are killed with the cutlass. 411

[1] Roth, 1924, *An Introductory Study of the Arts, Crafts and Customs*, Fig. 54, B.

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224 Bush cow (Carib, maipuri; *Tapir Americanus*).
136 Birds of the following varieties, particularly:
262
Powis or bush turkey (*Crax* sp.).
Mamm (tinamou).
Dukwaru or djokoro.
Wicissi ducks.
Cock of the Rock (Carib, unknown to author; *Rupicola elegans*).

Bird eggs (particularly mamm eggs).
Rats.

262 The tchiri, a white worm which lives in the pith inside the stem
136 of the turu tree, is fried on the cassava pan and eaten. The kom-
252 buru worm which lives in decaying wood is also eaten. The Caribs do not eat tiger, snake, camudi (water snakes), monkey, chicken hawk, or "crows" (vultures). Abstinence from these forms of animal food is based on tribal taste and has no religious significance.

Kushie ants are occasionally consumed. They are parched on
[825] the cassava pan and the abdomens are eaten. There is a long white worm which is always found in a kushie ant hill, called by the Indians two-headed, because the tail closely resembles the head. It is said to be the "mother of the ants," makoyumo (probably *Amphis baenae*). The muro frog, whose quacking sound is regarded as a sign of rain, is sometimes eaten and is said to taste like "young fowl."

The magico-religious beliefs and practices concerned with hunting will be taken up in the chapter on religion.

Methods of skinning the "accouri" are as follows: An incision is made from the neck to the sexual opening; branching incisions are then made to remove the hide of each of the legs; an incision is made encircling the neck; and the whole skin excluding that of the head is removed in one piece. The head is severed from the body, the abdominal cavity is opened by a sagittal incision in its anterior wall and the contents of the cavity are removed. The carcass is then dismembered for cooking. Essentially the same method is used for other fur or hair-bearing animals.

226 **Fishing.** European fish hooks are obtained in trade. If these
[77] are unavailable, hooks are made from common pins or from a
824 certain thorny bush of the jungle. Fish rods of yarriyarri (*Anaxa-*

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gorea sp.) are the most common; the line is made of kraua fibre. Rod fishing is most commonly done from korials, although frequently little boys amuse themselves by fishing with a rod from the bank. Each night a man, if his settlement is near the river, puts out a set line, to which are attached several hooks. These set lines are stretched across the river, fastened at either end to a stake of yarriyarri set in the water near the shore. Usually each hook has to be visited in a korial, although some more ingenious members of the tribe, perhaps through outside suggestion, have rigged up pulley arrangements at the opposite shore so that the line can be set and pulled in by a man standing on the bank.

Fish are also shot with arrows of the types, described above, especially made for the purpose. This seems to be a method very rarely used at the present time, and during my sojourn in the Carib country I saw it employed only twice. The men say that fish shooting is difficult because of the vegetable stain in the water which reduces visibility, and is only effective near rocks where the marksman can gain a steady perch high enough above the water to see the game.

The most productive fishing method is poisoning. The haiari root (? *Lonchocarpus* sp.) is the most generally used poison on the Barama. Two varieties are recognized, the "black haiari" (? *L. densiflorus*) and the "white haiari" (? *L. rufescens*). The former is the most commonly found and oftenest used for fish poisoning. The two other fish poisons generally used in the Barama country are konami (? *Clibadium* sp.) and wa'u (Creole, mora balli). Other poisons used in the Guianas are mentioned by Roth, but I have failed to find evidence of their use in this area

The river itself, as well as practically all of its tributary creeks, is regularly poisoned, although I understand that this practice is forbidden by colonial law because of the devastating effect which it is supposed to have on the fish supply. As one proceeds up the Barama one is impressed by the fact that across the mouth of almost every creek stands a wickerwork fence of nibi (a bush plant which is also used in making basketry), a sure sign that the creek has been poisoned, because the fence has been placed there to catch the dead or stupefied fish as they float downstream under the influence of the poison. When it is decided to poison a creek or river, the whole settlement usually turns out and the affair is

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made a sort of picnic or field day. The women bring supplies of cassava bread and peppers, and build fires near the site of the poisoning for the purpose of cooking the fish, part of the catch being eaten as part of the picnic lunch. Usually the men have preceded the women to the spot early in the morning, built a fence across the water downstream and collected a supply of haiari root from which they have removed the bark and which they have split into shreds. Each man has also cut a club or beater of yarriyarri wood two and one-half to three feet long, with a smooth handle fitted to the hand and a head of larger diameter. They bring the shredded haiari and the clubs to a point in the stream where semi-submerged logs or rocks arise from the water, which, below this point, must be relatively quiet and sluggish so that the poison is not too quickly borne away. Each man takes an armful of haiari and his club and chooses a suitable rock or log on which to pound the haiari, while he stands in the water alongside. In the meantime the women and children have deployed downstream, armed with cutlasses and knives with which to kill the stupefied fish. Each man then takes a small bundle of his haiari root and begins systematically to pound it on the rock or log which he has chosen, dipping it frequently into the water to free the juice until the haiari is exhausted of its poison. The juice when first freed has a whitish milky appearance which clouds the water. It seems to be heavier than the water itself and turns a rusty red with age. In the shallows of the stream which has recently been poisoned one sees the reddish viscid remnant of the haiari which has collected on the bottom. There seems to be some mystery concerning the effects of the poison on the fish and the opinion among the Caribs is divided as to whether the haiari would actually kill fish or merely stun them. They become sluggish and tend to float belly upward on the surface, but I have noticed that a fish "poisoned" by haiari, even when apparently dead, quickly revives when put into fresh unpoisoned water. On the other hand, the Indians also use the juice of the haiari to poison the ground around the roots of the tobacco plants, in the belief that it poisons the root grubs which kill the plants.[1]

[1] See Roark, R. C., "Rotenone." *Industrial and Engineering Chemistry*, Vol. 25, June 1933, pp. 629–642: "Rotenone, $C_{23}H_{22}O_6$, a colorless, odorless, crystalline constituent of certain tropical fish-poison plants, is thirty times as toxic as lead arsenate as a stomach poison to silkworm, fifteen times as toxic as nicotine as a contact insecticide upon bean aphids, and twenty-five times as toxic as potassium cyanide to goldfish, and yet is harmless to birds and mammals

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The women and children, along the banks or in the water, kill the apparently stupefied fish by slashing them with their cutlasses and knives. The fish are then put in carrying baskets and carried to the picnic spot. For the picnic lunch the smallest specimens only are eaten, usually being roasted over the fire on the ends of fresh green sticks, in the same way in which we roast picnic frankforters. The small fish, from which the heads and scales have not been removed, are then put with a small pepper into a sort of sandwich of cassava bread and eaten with much relish and gay talk, punctuated by the necessity of inserting the fingers in the mouth to remove those bones which cannot be chewed and swallowed. The larger fish are deprived of their scales with the help of a piece of wood which has been sharpened to a chisel edge. Then they are disembowelled, decapitated, and split sagittally along the back without removing the vertebrae or other bones. They are placed in carrying baskets with moist leaves and carried back to the settlement. If the people have a supply of trade salt, a number of slits are made parallel to the ribs and the meat is rubbed thoroughly with salt and placed out in the sun to dry. If there is no salt the meat is slit in the same way and dried over a babracot.

The wa'u poison is hacked into small chips and these are thrown into the water. Only the heart of the tree is used. The chips are thrown into the water in the evening, several hours being required for the poison to take effect. The next morning the dead fish may be collected. The wa'u is apparently less successful than haiari and is only used in the absence of the latter.

The poison made from konami is called sokoi. The konami leaf is pounded into a mash which is mixed with grated, unsqueezed,

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eating it. . . Rotenone is a constituent of the following plants, comprising seven genera of the bean family (Fabaceae or Leguminosae): *Cracca cinerea, C. virginiana, Derris Chinensis, D. elliptica, D. malaccensis, D. polyantha, D. uliginosa, Lonchocarpus nicou* (cube), *Lonchocarpus sp.* (haiari), *L. chrysophylus* (?) (Nekoe), *Millettia, Mundules suberosa, Ormocarpum, Spatholobus roxburghii*. . . Rotenone is now known to be harmless to mammals when taken by mouth, but many early writers on derris spoke of its dangerous poisonous qualities. . . Buckingham in 1930 made numerous tests on dogs, cats, pigs, sheep, cows, chickens with rotenone and with the ether extract of derris. He concluded that, when administered by mouth, pure rotenone produced no visible effects in dogs, cats, pigs, or sheep in doses (for dogs) up to one grain per pound of body weight and expressed the opinion that even larger doses would be harmless." Roark summarizes other experiments showing the non-toxic effects of rotenone on mammals, its extremely toxic effects on fish, and its variable effects on various species of insects. It is concluded that rotenone, the poisonous principle of haiari, is a stomach poison, although the physiological effects are not described. On this subject see also Killip, E. P. and Smith, A. C., "The Identity of the South American Fish Poisons, 'Cube' and 'Timbo'." *Journal of the Washington Academy of Sciences*, Vol. 20, No. 5, March 4, 1930, pp. 74–81; Roark, R. C., "Excerpts from consular correspondence relating to insecticidal and fish-poison plants." U. S. Department of Agriculture, Bureau of Chemistry and Soils, Insecticide Division, June 1931; Killip, E. P. and Smith, A. C., "The Use of Fish Poisons in South America." *Smithsonian Report for 1930*, pp. 401–408, Washington, 1931.

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bitter cassava, and baked into small balls which are dropped into the water where they are swallowed by the fish. A fish which has been gullible enough to swallow this fraud soon loses control and floats to the surface where it is captured by the fisherman.

I did not observe nor hear of the use of fish traps or of nets, although these appliances are reported from other parts of the colony.

The fish most commonly used for food are the haimara (*Hoplias macrophthalmus*), huri (*Hoplias malabaricus*), yarrau (*Hypostoma* sp.), low-low (*Silurus* sp.), pirai (*Pygocentrus*), cartabak (?*Tetragonopterus*). The moracot, so well known for its fighting tendencies and flavor in other parts of the colony, is found only in the tidewater portions of the Barama. Hook baits include spiders, calabash pap, cassava bread, and various worms.

Among other food products obtained from the streams are sting-ray (caught on hooks and tasting somewhat like tripe when cooked), small periwinkles or "snails" of two sizes called respectively mari (small) and kue (large), frog eggs.

Vegetable Foods. Every household has its own agricultural field lying at some distance from the house clearing. The slash-and-burn method is used in agriculture, a method which, in the absence of artificial fertilizers, requires the opening up of a new field usually every third year due to the exhaustion of the soil.

I do not intend here to enter into a detailed description of agricultural practices, inasmuch as similar procedures to those followed by the Caribs have been described by Roth, Schomburgk, Farabee, and others. When choosing a spot for a field, the first criterion is good drainage, and for this reason the fields are frequently referred to as "cassava hills." Associated with the topographical position in the problem of drainage is the character of the soil. The proper soil is called "white dirt" and takes its color from the large amount of sand mixed with the loam. First the underbush is cleared away with cutlasses and heaped into piles. Then the trees are cut down with iron axes obtained in trade. For felling large trees with heavily buttressed feet, scaffolds of small logs tied together with bush rope are built ten to fifteen feet above the ground, on which men may stand to do the chopping.

The tree felling is usually done during the rainy season and the movable logs and brush piled into heaps. Some time after the advent of the dry season, the logs and brush are burned, after

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calabash are cultivated: a, apotonong kwa'yepwi, large, spherical in shape except for small "spout" near the stem, grows on ground vine; b, morutuku, long, like a water melon, grows on ground vine like a melon; c, pawsi, small and elongated, grows on bush; d, shi'-iyongkwa'imyako epu, small and globular, grows on bush. Types a and b are planted from seed. They are perennial. Types c and d are planted from shoots cut from a living bush. The vines bear in seven months, the bush types in a year and a half. The pap from the inside of the fruit is sometimes used as fish bait and is sometimes cooked as a vegetable, but the principal use to which the fruits are put is in dried form as vessels for liquids. (See section on Utensils.) An interesting example of sympathetic magic is the practise of tying to the calabash plants the shells of the large landsnail, which in shape and color often resemble a small calabash. This practise is held to insure a good yield from the plant.

The cotton (maru'epu) trees are also planted near the houses. They are planted from seed and reach a height of eight to ten feet. They are said to bear in four to five months. Only one variety is grown. The seeds are removed by hand from the cotton bolls and are not used for any other purpose.

A large number of foods are gathered from the forest in season. The following is only a partial list of the edible bush products.

Plums (mope)[1] — bear once a year, about January; round and greenish in color; eaten raw and boiled.

Waiti — fruit in a pod like beans, grows on tree; seeds surrounded by sweet velvety meat; three varieties: paidyowa, long pod; posindyo, small short pod, grows along river banks; anakara, broad stubby pod. The seeds are sucked, but the fruit has little food value.

Asipoko — a round reddish fruit with soft tart flesh.

Arawiya — plum-like fruit.

Sawari nuts (*Caryocar* [*Pekea*] *tuberculosa*) — the Brazil nut of commerce.

Mora seed (*Dimorphandra mora Bth.*) — in times of scarcity grated and baked into bread, sometimes mixed with cassava.

Greenheart seed (*Nectandra rodioei Hooker*) — same use as mora seed.

Ballimanni seeds (?sp.) usually eaten by accouri and labba, but used by man in time of want.

Cashew nuts (*Anacardium sp.*).

The fruit of the kokerite palm (*Maximiliana regia*).

Fruit of the ite palm (*Mauritia flexuosa*).

[1] ?*Spondias lutea*.

walking through the forest is always on the lookout for casual protein. The smallest bird egg, an embryonic bird, or what have you, are saved and consumed.

The more intensive food quest for the larger animals is aided by the introduction of rifles. A few dilapidated shotguns were in use by Upper Barama River Caribs in 1932-33 (Gillin 1936:8). Currently, only a limited number of men own rifles and ammunition is not always available. As a consequence, the local technology of hunting, including bow and arrows and traps as described by Gillin (1936:3-9), is maintained.

The fish poisons described by Gillin are also in use (1936:11). Rather than the haiari root, the kunami leaves, picked from plants in the fields, are more frequently used around the air strip, where the harvesting of fish has also changed. After repeated poisoning of the nearby streams, only a handful of small fish, three inches and under, are collected in this manner.

With regard to domesticated fauna, there exists the same lack of a specific boundary which characterizes the floral resources. Chickens are clearly domesticated. Currently, they and their eggs are eaten. This is a change from an ornamental use reported by Gillin (1936:45). At one time, a few pigs were raised in the area around the air strip. Scrawny dogs who must scavenge for themselves are kept for hunting. Also, a variety of birds and animals, including the kibihi, armadillo, labba, and bush hog, are captured when infants and kept as pets until they are mature. Then they are eaten. Finally, a honey bee nest may be moved to a location convenient to future use.

*177 657 322 439 sent to Georgetown. A few times when the Welfare Officer for Amer-indian Handicraft and Artifacts had a definite buyer, she made a special request for the large functional bows and arrows. However, this opportunity affected only one man who made these especially well.

*177 657 439 285 412 At other times, a few pots, matapis, the cylindrical basket used to squeeze prussic acid out of manioc, and sifters, used to grate the cylinder of dried manioc pulp, and other basketry work were sent to Georgetown.

*177 659 • 226 439 Another episode involving regional markets concerns tropical fish. For a few weeks from the end of April and into May 1971, Aenus Catfish, both speckled and plain, were collected. These fish are about an inch and a half long and can be easily caught by hand or net in the stream beds during the dry seasons. In early April, letter correspondence developed between the Project Officer and the proprietor of an aquarium supply company in Georgetown. The Project Officer was offered $50 per thousand of these fish, and he appointed a man with the help of his adult son to initiate collecting catfish. The first Friday, 650 catfish were sent to Georgetown in open tins via Guyana Airways. The men were paid 3¢ per fish, and the rest of the income was used in the care and storing of these fish. The proprietor paid the air freight costs. More generally men were encouraged to collect catfish, and residents from the satellite settlements as well as the Air Strip were involved. Usually on Friday morning, men would bring their catch to the air strip well before the plane came. Each man would bring as few as twenty-five fish which brought 75¢. The Project Officer would supervise the counting of fish and the loading of filled tins onto

*177 657 • 226 439 the small aircraft. As is common in the handling and transportation of tropical fish, many would die. Up to as many as ten percent of the fish would be lost in transit to Georgetown, and the proprietor cut the price to 4 1/2¢ per live fish he received. After a few thousand catfish had been sent to Georgetown, tropical fish operations were suspended.

*177 438 436 With this proliferation of small market opportunities, a money economy continued to develop in the Upper Barama River area after the closing of the mine. A government trade store is now located at *177 657 443 438 439 Baramita Air Strip and operated by the Project Officer. During 1970-71, the minimal stock of tinned sardines, salt fish, flour, rice, sugar, cigarettes, matches, ammunition, cutlasses and knives, cloth lengths, pants and shirts, school exercise books and pencils was sometimes depleted by delay in the shipment of supplies from Georgetown. *177 436 More often, Caribs did not have the cash to make purchases. Money tended to be a more specialized means of exchange. Only it could [182] be used to purchase commercial goods. As a consequence of the limited circulation of money among this population, there occurred a renewed *177 438 [464] reliance on bush resources for food and tools. Secondary networks for the exchange of local provision foods greatly disappeared. A marked separation of those employed and unemployed during the mining *177 438 439 [657] economy was lost. In contrast, a diversity of limited opportunities to directly participate in regional exchanges was available more generally to the population at Baramita Air Strip. In this manner, the regional economy among the Upper Barama River Caribs has been supported by the national government since the closing of the mine.